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Bailey, Aeneas, Revis and Tunk Livestock Grazing Analysis

Final
Environmental Impact Statement

Draft RECORD OF DECISION and Summary

Tonasket Ranger District
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Lost Creek

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August 2014

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Okanogan – Wenatchee National Forest

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Abstract: The Final Environmental Impact Statement (FEIS) documents the detailed analysis of three alternatives for the management of the Bailey, Aeneas, Revis, and Tunk Livestock Grazing Analysis (BART). The BART Grazing Allotments analysis area is located approximately ten miles southeast of Tonasket, Washington. Alternatives include Alternative 1, no grazing; Alternative 2, the proposed action; and Alternative 3, current grazing with fencing and rested units. The Selected Alternative is Alternative 2 which will authorize livestock grazing consistent with Forest Plan standards and guidelines while implementing specific resource improvement measures. The first stage of both action alternatives are similar.

Table of Contents

TABLES

FIGURES

DRAFT RECORD OF DECISION

Bailey, Aeneas, Revis and Tunk Livestock Grazing Analysis

United Sates Department of Agriculture, Forest Service
Okanogan - Wenatchee National Forest
Okanogan County, Washington

INTRODUCTION

The Bannon, Aeneas, Revis, and Tunk Cattle and Horse Grazing Allotments (herein referred to as BART Grazing Analysis) is located on about 36,297 acres of National Forest System lands within Township (T.) 35 North (N.), Range (R.) 28 & 29 East (E.), and T. 36 N., R. 28, 29 & 30 E., Willamette Meridian (W.M.). See Figure R-1 for a Vicinity Map of the BART Grazing Analysis Area (page R-27). See Figure R-2 for a map of the Selected Alternative (page R-28).

The current allotment management plans (AMPs) predate the 1989 Okanogan Forest Plan and the Rescission Act of 1995 (Public Law 104-19, Section 504), which directs the Forest Service to complete National Environmental Policy Act (NEPA) analysis on all grazing allotments every 10 years.

Surveys of the analysis area identified areas that are of concern that are not meeting, or moving towards meeting Forest Plan standards and guidelines, including PACFISH/INFISH Riparian Management Objectives (RMOs) or Forest Service Manual direction for resources, especially in Peony, Aeneas, Lost, Barnell, Cole, Patterson, Chewiliken, and Jungle Creeks. Therefore, there is a need to analyze alternatives designed to maintain resource conditions currently meeting ecosystem goals and objectives and to improve conditions not meeting goals and objectives.

The purpose of the BART analysis is to provide for grazing while reviewing and evaluating the current condition of the allotment; moving current conditions toward the desired condition. This analysis is needed to ensure that livestock grazing on the Bannon, Aeneas, Revis, and Tunk Allotments is consistent with current law, regulations, management direction, and the Okanogan Forest Plan, as amended (1989).

DECISION AND RATIONALE

Decision

Based on the analysis presented in the final Environmental Impact Statement for the Bailey, Aeneas, Revis and Tunk Livestock Grazing Analysis (BART Grazing Analysis) Project, I have decided to select Alternative 2 as presented in the Final Environmental Impact Statement. A map depicting the Selected Alternative is presented in Figure R-2 (page R-28) at the end of this Record of Decision.

Alternative 2 – Selected Alternative

The selected action is to continue livestock grazing at current levels (see Table R-1) using a combination of existing and new range improvements for each allotment, and adaptive management strategies for the Bannon and Tunk Allotments

Table R-1, Head Months (HM) [1] by Allotment

Allotment	HMs permitted	AUMs	Livestock Number Cow/Calf pairs	Season of Use
Bannon	602	806	150	6/1-9/30
Aeneas	1203	1610	300	6/1-9/30
Revis[#]	--	--	--	6/1–9/30
Tunk	1556 (1604*)	2083	388	6/1-9/30

* Includes 48 HMs from adjacent State Department of Natural Resource grazing lease.
# This allotment is presently not grazed, but is proposed to be permitted in combination with the Bannon Allotment in the future.

The "on" and "off" dates may vary by up to two weeks to accommodate seasonal changes from year to year. Cattle may be pulled off the allotments early during drought years, depending on resource conditions.

To ensure that livestock impacts do not adversely affect other resource conditions, such as the degree of stream embeddedness, monitoring will be used to assess whether or not conditions, where specified, are moving towards Forest Plan Standards and Guidelines and PACFISH/INFISH Riparian Management Objectives (RMOs).

The implementation process is designed to occur in stages that will allow adequate time for range improvements to be funded, constructed, and evaluated for effectiveness (see Table R–2, page R-6, for estimated timing between stages). Adaptive management strategies for Bannon and Tunk allotments may or may not be implemented based on the effectiveness of the range improvements executed under Stage 1 or subsequent stages (see Figure R-2, page R-28).

A monitoring plan has been developed, and trigger points for riparian utilization have been established to identify when a specific threshold is about to be reached and changes need to be made (generally moving cattle to another pasture or off the Forest). The construction of additional fences and initiation of additional grazing strategies in subsequent stages may occur where the permittee and the Forest Service agree that additional fencing and grazing strategies will improve livestock management and riparian area conditions. Livestock grazing will continue within the new fenced pastures unless monitoring indicates that trigger points, indicating a need to move livestock are being reached. Cattle will then be moved to the next pasture or off the Forest. Indicators of Desired Recovery for Re-grazing (summarized on page R-10, FEIS page 50) have been established to determine when grazing could be returned to pastures where grazing has been excluded.

Range specialists will coordinate with the permittee to move livestock to other areas should in-season move triggers be met. If end of season monitoring guidelines are exceeded, alternative livestock grazing management practices (i.e. adaptive management) will be implemented for the following grazing season. These adaptive management strategies decisions may consist of a reduction in time and/or numbers, additional fencing, or an adjustment of monitoring standards for future years. Multiple infractions may ultimately result in suspension of numbers, or cancellation of a permit.

The specific move trigger points for <u>Riparian Utilization</u> are:

[1] HMs = Head Months, one month's use and occupancy of range by one weaned or adult animal cow, bull, steer, or heifer. Calves are not counted. This is a term used mostly for billing purposes to calculate an occupancy level – how many animals for how long.

- Streambank Alteration of 15% (start moving cattle off prior to exceeding 20% alteration);

- Not to go below a 6-inch mean stubble height for grasses, forbs, or sedges along the green line (only applies to the habitats suitable to providing a stubble height of greater than 6-inches each year and where criteria can be meaningfully measured).

Implementation Process

Stage 1

Bannon and Revis Allotments:

Remove a portion of the Revis boundary fence, about 1.1 miles in length, in Section (S.) 7 & 8, Township (T.) 36 North (N.), Range (R.) 29 East (E.) in order to manage the Revis Allotment with the Bannon Allotment. (Permitted livestock numbers will not increase above the permitted numbers for the Bannon Allotment).

Rest the Peony pasture until the Indicators of Desired Recovery for Re-grazing are reached (summarized on page R-10, FEIS page 50). The corral located in the Peony Pasture, will be utilized periodically for livestock control while moving cattle between pastures, and during gathering at the end of the grazing season.

Remove the Bannon water catchment structure in the NW ¼ of S. 7, T. 36 N., R. 29 E.

Move the Patterson trough out of the creek at SW ¼ of S. 8, T. 36 N., R. 29 E. and fence the water source.

Along Cole Creek, move the Mike trough out of the inner gorge of the riparian area and install a small exclosure fence to protect the spring source at the creek in the SE ¼ of S. 9, T. 36 N., R. 29 E.

Develop a spring source and place a trough or crib just above the fence dividing the Cat and Peony Pasture, NW ¼ of S. 21, T. 36 N., R. 29 E. Install a small exclosure fence to protect the spring source.

Reconstruct the Grouse water development, install a new spring box, pipes, fence, and trough in the SW ¼ of the SE ¼ of S. 19, T. 36 N., R. 29 E.

Reconstruct the pasture water development, including an exclosure fence, in the NE ¼ of the SE ¼ of S. 21, T. 36 N., R. 29 E. (delayed construction until the Peony pasture, being rested, is ready to be grazed again).

Aeneas Allotment:

Install a fence (approximately 1.5 miles long) north of National Forest Road 30 (S. 11 & 12, T. 35 N., R. 29 E.) that will restrict livestock access to Aeneas Creek and eliminate access to Jungle Creek and the associated wetlands. This construction, and the movement of the fence listed below, will create an exclosure area incorporating portions of lower Jungle Creek and Aeneas Creek.

Move approximately 1 mile of existing fence to the south, out of the riparian area on the south side of Aeneas Creek in S. 14, T. 35 N., R. 29 E.

Develop the spring source with a pump and two troughs above the new fence in the Sneed pasture at Aeneas Creek, S. 12, T. 35 N., R. 29 E. Install a small exclosure fence to protect the spring source.

Develop the spring source and place trough in the SW ¼ of the SE ¼ of S. 7, T. 35 N., R. 30 E. Fence around spring source and meadow, < ½ acre.

Develop the spring source and place trough in the NW ¼ of S. 31, T. 35 N., R. 29 E. Fence around the wetland, < 1/10th acre.

Develop the spring source and place trough in the SE ¼ of the NW ¼ of S. 11, T. 35 N., R. 29 E. Install a small exclosure fence to protect the spring source.

Install a hardened, rocked, and fenced, crossing for livestock access and watering at Aeneas Creek. A wire gate will be installed in the fence at this crossing.

Relocate the Jungle Creek corrals away from Jungle Creek, to a location outside of the RHCA, and remove the existing trough from Jungle Creek (S. 11, T. 35 N., R. 29 E.). Move the corral to along Forest Road 30.

The length and timing of livestock grazing within the Bailey pasture (South pasture) will be adjusted if monitoring determines that habitat indicators such as bank stability, greenline to greenline width, and streamside vegetation are not moving towards meeting Forest Plan Standards and Guidelines and INFISH/PACFISH RMOs. A likely scenario will be for an early season, reduced grazing period (June 1 to July 1) during alternating years with a mid-season reduced grazing period (July 1 to August 1) during alternate years.

Tunk Allotment:

Continue the current practice of resting the Lost/Barnell pastures every other year. On grazed years, monitoring will be implemented to ensure that conditions along Lost and Barnell Creeks remain on a trajectory towards attaining Forest Plan Standards and Guidelines/Riparian Management Objectives. Utilize triggers to determine the need to move cattle. Range readiness for soils and vegetation must be met prior to turn on. Upon reaching the Indicators of Desired Recovery for Re-grazing (summarized on page R-10, FEIS page 50), additional grazing may be considered.

Construct a corral adjacent to Forest Road (FR) 3015 on the south side of the junction of FR 3015 and FR 30150125 in the NW ¼ of S. 29, T. 36 N., R. 29 E.

Develop a spring source, place trough, and construct a fence to protect the source and adjacent wetland in the SW ¼ of S. 29, T. 36 N., R. 29 E.

Develop a spring source and place a crib or trough in the SE ¼ of the NE ¼ of S. 31, T. 36 N., R. 29 E. Install a small exclosure fence to protect the spring source.

Develop a spring source and place a trough at the spring outside No Name Creek in the NE ¼ of the SE ¼ of S. 36, T. 36 N., R. 28 E. Install a small exclosure fence to protect the spring source.

Develop a spring source and place two livestock watering troughs in the NE ¼ of S. 33, T. 36 N., R. 30 E. Construct a fence to protect the water source and wetland.

Develop a spring source and place a crib or trough in the NW ¼ of the SW ¼ of S. 3, T. 35 N., R. 29 E. Install a small exclosure fence to protect the spring source.

Develop two springs and place cribs or troughs in the NE ¼ of S. 22, T. 35 N., R. 29 E. Install a small exclosure fence to protect the spring source.

Develop a spring source and place crib or trough in the SW ¼ of S. 21, T. 35 N., R. 29 E. Install a small exclosure fence to protect the spring source.

Remove a temporary fence along Barnell Creek in S. 27, T. 35 N., R. 29 E.

Move the Block water development downhill and install a crib in the NE ¼ of S. 27, T. 35 N., R. 29 E. Install a small exclosure fence to protect the spring source.

Reconstruct the unnamed water development in the SE ¼ of S. 22, T. 35 N., R. 29 E. Install a small exclosure fence to protect the spring source.

At Bench Creek, develop a spring source, fence around the spring source for protection, and place a trough below the road in the SE ¼, S. 34, T. 36 N., R. 29 E.

Develop a spring source and place a trough at the spring in the draw in SW ¼, S. 4, T. 35 N., R. 29 E. Fence the water source and wetland.

Develop a spring source and place a trough at the spring in the NE ¼, S. 4, T. 35 N., R. 29 E. Fence the water source and wetland.

Develop a spring source and place a trough at the spring in the shallow draw east of Peony Creek and north of FSR 3010 in the NE ¼ of the SW ¼, S. 28, T. 36 N., R. 29 E. Fence the water source and wetland.

Adaptive Management Strategies for Bannon and Tunk Allotments

Stages 2, 3, and 4 are shown in an example order for discussion purposes only. Their order of implementation may be modified based on project monitoring results of the associated stream reaches with management actions to be completed first in the stream reaches most in need of reduced riparian impacts from livestock. The order will be determined based on monitoring of conditions described by the Project Fish Biologist and Project Hydrologist.

Stage 2

If monitoring of management strategies described in Stage 1 in Upper Jungle Creek of the Tunk Allotment indicates that the health and functions of the riparian resources are degrading as a result of livestock use or resources are not moving towards meeting Forest Plan Standards, DFCs, or preventing or retarding the attainment of PACFISH/INFISH Riparian Management Objectives (RMOs), then, if agreed to by the permittees, construct fence 2 as shown in Figure R-2 (page R-28). This fence will be approximately 3.9 miles in length around the north slopes of Jungle Creek and tributaries within the SE ¼ of S. 32, T. 36 N., R. 29 E. and Sections 3, 4, 5, 6, 7 & 8 of T. 35 N., R. 29 E. This will create an additional pasture (Area C; see Figure R-2, page R-28) within the North Unit of the Tunk Allotment that will be grazed as determined by forage capacity and Desired Future Conditions. Active herding will be authorized through this pasture into the area west and north of the fence along existing stock drives and roads when moving from the North to South pastures.

Livestock grazing will continue within the new fenced pastures unless monitoring indicates that trigger points, indicating a need to move livestock are being reached. Cattle will then be moved to the next pasture or off the Forest.

Stage 3

If monitoring a full grazing season after completion of Stage 2 implementation in the Aeneas and Jungle Creek areas of the Tunk Allotment indicates that the health and function of the riparian resources are not improving as a result of livestock use or resources are not moving towards meeting Forest Plan Standards or preventing or retarding attainment of PACFISH/INFISH Riparian Management Objectives (RMOs), then Stage 3 adaptive management will be implemented.

With the permittees agreement, construct approximately 3.2 miles of fence from the Forest Boundary in S. 17, T. 35 N., R. 29 E., east to Forest Road 30 in S. 23 in order to create an additional pasture (Area D; Fence 2, see Figure R-2, page R-28) south of the existing boundary fence between the North and South pastures, that will be grazed as determined by forage capacity. Active herding will be authorized through

this pasture into the area west and north of the fence along the existing route of stock drives and roads, when moving from the North to South units.

Stage 4

If, monitoring a full grazing season following Stage 3 implementation in the Patterson and Upper Peony Creek areas of the Tunk and Bannon Allotments indicates that the health and function of resources is degrading as a result of livestock use or resources are not moving towards meeting Forest Plan Standards, or preventing or retarding attainment of PACFISH/INFISH Riparian Management Objectives (RMOs) then Stage 4 adaptive management will be implemented.

With the permittees agreement, this will entail constructing approximately 2.7 miles of fence around Peony Creek within the North pasture of the Tunk Allotment (Sections 28, 29, 30, 32, and 33 of T. 36 N., R. 29 E.). This will create an additional pasture (Area B; Fence 4, see Figure R-2, page R-28) within the North pasture that will be grazed as determined by forage capacity and desired conditions. Active herding will be authorized through this pasture into the area west and north of the fence along existing stock drives and roads when moving from the North to South Pastures.

With permittee agreement, this will entail constructing approximately 1.3 miles of fence along Patterson Creek (Area A) in the Bannon Allotment (Sections 8 & 18, T. 36 N., R. 29 E.). A water gap will be installed along this fence in section 8.

Stage 5

If monitoring does not show improvements from livestock management strategies described in Stages 1 through 4 or are not protecting the continued health and function of resources or are not yielding improved riparian conditions in streams functioning at risk in the Bannon and/or Tunk allotments, in particular streambank stability, then additional adaptive management measures will be taken to reduce livestock impacts in the Bannon and Tunk allotment(s). If the stream banks do not begin to stabilize and exhibit signs of healing from trampling effects, such as improved vegetative ground cover, then reductions in the current grazing season, reductions in the numbers of Animal Unit Months (AUMs) of grazing, and/or using a rest/rotation strategy for 2 years for the affected allotments will be implemented. If that is not successful, total livestock exclusion from the 4 fenced areas (A, B, C, D) will be implemented. It is expected that the Indicators of Desired Recovery for Re-grazing (summarized on page R-10, FEIS page 50), will be fully met prior to the return of grazing on the Bannon and Tunk allotments. The table below, Stage Decision Point Timing, estimates the time for construction and monitoring between moving between the different stages of the project. This period between starting the project and moving to stage 5 will be 10 – 13 years.

Table R-2, Stage Decision Point Timing

Stage	Estimated Monitoring Time Between Moving to Next Stage (years)	Comments
1	4	It is assumed that it will take 2 years to complete removal/reconstruction and construction of items in Stage 1. The construction of the Jungle Creek fence (new fence construction year 1) and moving the Aeneas Creek fence south (year 1) , moving of the Jungle Creek Corral, and construction of most of the water developments and other facilities in the first year with the remainder of the construction in the second year. This will be followed by 2 years of monitoring to determine if management strategies have reduced livestock impacts on riparian areas. Monitoring will look for overall improvement (assume some monitoring locations will improve and some monitoring locations may stay the same or deteriorate).

Stage	Estimated Monitoring Time Between Moving to Next Stage (years)	Comments
2+	2 - 3	It is assumed that construction of the 3.9 miles of fence, fence 2, will be completed in one - two years and that will be followed by one year of monitoring to determine if management strategies had reduced livestock impacts on riparian areas and resources are moving towards meeting Forest Plan Standards & Guidelines and PACFISH/INFISH Riparian Management Objectives (RMOs).
3+	2 – 3	It is assumed that the construction of the additional 3.2 miles of fence (fence 3) will be completed in one – two years and that will be followed by one year of monitoring to determine if management strategies had reduced livestock impacts on riparian areas and resources are moving towards meeting Forest Plan Standards and Guidelines and PACFISH/INFISH RMOs.
4+	2 - 3	It is assumed that the construction of the additional 4.0 miles of fence (fences 4) will be completed in one – two years and that will be followed by one year of monitoring to determine if management strategies had reduced livestock impacts on riparian areas and resources are moving towards meeting Forest Plan Standards and Guidelines and PACFISH/INFISH RMOs.
5	N/A	If improvements and livestock management strategies are not protecting the continued health and function of resources or are not improving riparian conditions in the Bannon and/or Tunk allotment(s), in particular streambanks, additional administrative measures will be taken to reduce livestock impacts, such as reductions in the current grazing season, reductions in numbers, and/or a rest rotation strategy for 2 years for the affected pastures that have not shown an overall improvement to determine if there is adequate improvement. If no improvements are shown after 2 years, total livestock exclusion from the 4 fenced pastures [A, B, C, D] (only the pastures that have not shown an overall improvement) will be implemented. It is expected that the Standards for When to Re-graze Pastures (summarized on page R-10, FEIS page 50) will be fully met prior to the return of grazing on these pastures.

+ ***Stages 2, 3, and 4 are shown in an example order for discussion purposes only. Their order of implementation may be modified based on project monitoring results of the associated stream reaches with management actions to be completed first in the stream reaches most in need of reduced riparian impacts from livestock. The order will be determined based on monitoring of conditions described by the Project Fish Biologist and Project Hydrologist.*** *All fences will be constructed within a 2 year period of moving to the next stage, after stage 1. The time period between stages is based on 1 year of monitoring after the fences are constructed. Monitoring will look for overall improvement (assume some monitoring locations will improve and some monitoring locations may stay the same or deteriorate).*

Mitigation

My decision also includes many mitigation measures to avoid or minimize impacts to resources. The National Environmental Policy Act defines "mitigation" as avoiding, minimizing, rectifying, reducing, eliminating or compensating for project impacts. These are covered in detail on pages 37 to 44 of the final EIS, and include, but are not limited to measures to avoid or minimize impacts to cultural resources, recreation, soils, water quality, noxious weeds, aquatic and wildlife habitat, plants, wetlands, and streams.

Many mitigation measures are considered to be Best Management Practices (BMPs) for watershed, and vegetation management and General Water Quality Management. Best Management Practices are "practices or combinations of practices that are determined by a State (or designated area-wide planning agency) after problem assessment, examination of alternative practices, and appropriate public

participation, to be the most effective, practicable (including technological, economic, and institutional considerations) means of preventing or reducing impacts to water quality and other resources.

Monitoring

My decision also includes the many monitoring measures used to identify any need to change management, and the direction that the change should take. These are summarized in the section below and covered in detail on pages 44 to 55 of the final EIS and include, but are not limited to, measures to monitor: riparian areas, aquatics and hydrology, soils, botany, cultural resources, and range.

The District will use both Implementation and Effectiveness monitoring to determine if current management is producing the desired results of compliance with PACFISH/INFISH RMOs, Forest Plan Standards and Guidelines, and the PACFISH/INFISH Biological Opinion (PIBO).

Monitoring will target those indicators that are annually influenced by livestock grazing (implementation monitoring) and those that indicate the long term condition (effectiveness monitoring). Monitoring was primarily developed by analyzing the departure from the historic and desired conditions.

Range specialists will coordinate with the permittees to move livestock to other areas should in-season move triggers be met. If end of season monitoring guidelines are exceeded, alternative livestock grazing management practices (i.e. adaptive management) will be implemented for the following grazing season. These adaptive management strategies, decisions may consist of a reduction in time and/or numbers, additional fencing, or an adjustment of monitoring standards for future years. Multiple infractions may ultimately result in suspension of numbers, or cancellation of a permit.

Management Indicator Monitoring (MIMs) [also referred to as PIBO]

Riparian monitoring will be done at nine riparian monitoring sites located across the allotments (see Figure R-3, Stream Monitoring Sites, page R-29). Range, fisheries and/or hydrology staff will conduct both Implementation and Effectiveness monitoring at these sites. These nine sites are:

- No name Tributary 5 of Upper Aeneas (Tunk Allotment) [NE 1/4 of Sec. 15, T. 35 N., R. 29 E.]
- No name Aeneas Tributary 2 (Aeneas Allotment) [N 1/2 of Sec. 13, T. 35 N., R. 29 E.]
- Upper Peony Creek at PIBO site (Tunk Allotment) [NE ¼ of Sec. 29, T. 36 N., R. 29 E.]
- Lost Creek at PIBO site (Tunk Allotment) [SE 1/4 of Sec. 34 & SW1/4 of Sec. 35, T. 35 N., R. 29 E.]
- Barnell Meadows (Tunk Allotment) [SE 1/4 of Sec. 27, T. 35 N., R. 29 E.]
- Patterson Creek- above 3010395 spur road (Bannon Allotment) [NW 1/4 of Sec. 8, T. 36 N., R. 29 E.]
- Peony Creek at PIBO site (Bannon allotment) [NE 1/4 of Sec. 21, T. 36 N., R. 29 E.]
- Upper Jungle Creek- (Tunk Allotment) [SW ¼ of Sec. 4, T. 35 N., R. 29 E.]
- Jungle Creek Exclosure (Aeneas Allotment) [SW 1/4 of Sec. 11, T. 35 N., R. 29 E.] This site will be monitored to provide a baseline for recovery time for a disturbed site (formerly the site of the Jungle Creek corral and water development) in a newly created exclosure area (this monitoring location provides a baseline site where no grazing should be taking place).

The BART project will rely on applicable monitoring protocols identified in the 2011 Multiple Indicator Monitoring (MIM), by Burton et al. (2011).

Implementation Monitoring

Implementation monitoring consists of examining stream channel and riparian vegetation indicators during the grazing season to ensure that allotment management standards are met after cattle are removed from an allotment/pasture (end of growing season). The riparian associated end-point indicators (or move triggers) identified in the PACFISH/INFISH Biological Opinion (PIBO), 2011 MIMs (Burton et al. 2011), and adopted by the Tonasket Ranger District are stubble height - and one physical parameter - streambank alteration - to monitor current season's use of aquatic and riparian resources. These are widely used to assess the effects of livestock grazing on aquatic/riparian habitat and maintaining or achieving desired future conditions (Clary and Webster, 1989). The standard protocol for monitoring these habitat indicators is once at the end of the season, soon after cattle are removed.

In addition to measuring annual indicators, the BART AMP will use these indicators as move triggers. Move triggers function to ensure end of season indicator standards are met and to reduce impacts that degrade riparian areas. At each monitoring site, move triggers will be used that, if they are met, the streams will maintain or move toward attainment of Forest Plan Standards and Guidelines and PACFISH/INFISH Riparian Management Objectives (RMOs). The indicator standards/move triggers used are as follows:

Stream-side stubble height standard:

- Not to go below a 6-inch mean of stubble height for grasses, forbes, or sedges along the green line. This standard only applies to those plants which are capable of exceeding that height each year and to monitoring sites where the monitoring criteria can be meaningfully measured;

Streambank alteration standards:

- Not to exceed 20% altered banks;

All riparian monitoring sites will be monitored during each grazing season at least once to determine if livestock use is approaching the standards. If the standards are being approached, livestock will be moved to the next pasture or off the allotment. If the move trigger is not reached, cattle will be moved on the expected move dates established for each pasture. Each site will also be monitored at the end of the season to assist management in making decisions for the following year's operating instructions.

Effectiveness Monitoring

Effectiveness monitoring will consist of examining trends in habitat indicators to determine if management actions are effective at improving the condition of riparian and aquatic habitats so they move towards meeting Desired Future Conditions (DFC) and Resource Management Objectives (RMOs). The monitoring methods identified by PACFISH/INFISH Biological Opinion (PIBO, 2005a), and described in 2011 MIMs (Burton et al. 2011), and adopted by the Tonasket Ranger District (TRD) includes greenline composition, woody species height class, streambank stability and cover, woody species age class, greenline to greenline width (GGW), substrate (sediment), and residual pool depth and pool frequency. Additionally, photos will be used to demonstrate change and spot temperatures will be taken to monitor stream temperature.

The key indicators that could change during the duration of the AMP include streamside vegetation (greenline composition, wood species height class and age class), bank stability and cover, and greenline to greenline width (GGW). The substrate and residual pool depth and pool frequency are driven by all activities occurring in the project area (grazing, roads, logging, recreation, and fire) and are slower to change. The project will measure all indicators for a baseline and then will monitoring the key indicators

on a 3 year frequency thereafter. Sediment and pool condition will be measured once more between years 10 and 15 after initiation of the project.

The monitoring data will inform project specialists if degraded riparian and aquatic habitat conditions are improving and if current grazing regimes are consistent with the Forest Plan Standard and Guides. Additionally, this monitoring will determine the effectiveness of the different adaptive Stages of the Selected Alternative. Under the Selected Alternative, and its Adaptive Stage approach, if the measures of streambank vegetation, bank stability/cover, greenline to greenline width, and photo points show improvement (i.e. a narrowing of the channel and increased bank vegetation), the current stage is deemed successful and it will continue. Alternatively, if the channel cross-section does not change and the existing bank condition and associated vegetation remain, the grazing strategy will proceed to the next adaptive management stage.

Definitions of the different effectiveness indicators are located on page 49 of the FEIS. See MIMs (Burton et al. 2011) for more details.

Indicator of Desired Recovery for Re-grazing

Pastures will be rested until riparian and aquatic habitats are functioning properly. Suitable conditions for re-grazing include, but are not limited to, bank stability of 90%, or greater, as well as a robust streamside vegetation composition that armors the fine-grained streambanks, resists erosion, provides shade and nutrient input, and inhibits cattle access. Following a few years of rest and some annual monitoring, an Interdisciplinary Team will review the monitoring site for meeting the desired conditions. The team will assess riparian conditions to determine if the area is ready to handle grazing again and at what intensity (FEIS page 50).

The goal is for adequate woody vegetation to stabilize streambanks with sufficient recruitment, size classes, and species composition to withstand annual high flows and some grazing disturbance.

An interdisciplinary team will assess riparian conditions using the proper functioning condition riparian vegetation checklist as described in *A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lotic Areas guidance document* (Prichard et al. 1998). The team will visit a pasture proposed to be no longer rested and determine whether the monitoring site conditions are properly functioning[2], functioning-at risk, or non-functioning.

Rationale and Factors Other than Environmental Effects Considered in Making the Decision

I have chosen Alternative 2 as the Selected Alternative because the permittee will have a larger role in the decision to implement adaptive management measures that will cause pastures to be rested. The permittee is given the opportunity to use adaptive management options to achieve the desired resource results. This alternative could be adopted without a reduction in livestock numbers, a reduction in season of use, and no large fenced areas without permittee concurrence until stage 5. This alternative could be

[2] Riparian areas that exhibit a properly functioning condition (PFC) are not the same as desired conditions. A properly functioning riparian area is in a state of resiliency that will allow riparian-wetland areas to hold together during a high-flow event, sustaining that system's ability to produce values related to both physical and biological attributes. Furthermore, it defines a condition where the riparian-wetland area is physically functioning in a manner that will allow the maintenance or recovery of desired values (e.g., fish habitat, functioning channel processes). A condition of PFC is a prerequisite to achieving desired condition.

implemented without significantly impacting the permittee. It was felt that resource objectives could be achieved with basic improvements and administrative actions.

This alternative best meets the purpose and need for the project to meet Congressional and Okanogan National Forest Plan intent to allow grazing on suitable lands without impairment of the productivity or surface resources of the land. The goal is to provide a sustained production of palatable forage for grazing by livestock and dependent wildlife species while meeting the needs of other resources and uses at a level which is responsive to site-specific objectives (Forest Plan, page 4-1 through 4-10) as well as to contribute to the social and economic health of communities which are significantly affected by National Forest management. The Bannon, Aeneas, Revis, and Tunk allotments contain lands identified as suitable for domestic livestock grazing in the Okanogan Forest Plan.

Impacts to resources have been adequately mitigated. Riparian and aquatic habitat will be within standards set by the Okanogan National Forest Plan, as amended by PACFISH and INFISH RMOs or moving to meet those standards (FEIS pages 71 – 73, 105, 182 – 187, 214, & 215) Most adverse effects to inland native fish are avoided since about 35% of streams have little or no grazing impacts due to natural barriers and Stage 1 fencing will create an exclosure around much of fish-bearing lower Aeneas and Jungle Creeks; estimated as over 40% of the fish bearing streams (FEIS page 27).

Impacts to dispersed recreation uses should not be substantial (FEIS page 241). There should be no impact to wildlife movement corridors since livestock grazing would not negatively affect the forested stand cover (FEIS, page 71 & 216). Although disturbance to wildlife will be high, the project is not likely to adversely affect listed threatened or endangered species as defined in the Interagency Cooperation Regulations, 50 C.F.R, part 402, for the Endangered Species Act, nor will it cause a trend toward listing of sensitive species as threatened or endangered (FEIS pages 66 & 224 - 227). Most impacts to sensitive and native plants, and plants of cultural interest should be reduced (FEIS pages 70, 118-121 & 124-126). Noxious weed prevention measures are included to reduce the potential for spread (FEIS pages 38 & 39). The alternative also avoids adverse impacts to eligible historic properties under the National Historic Preservation Act (FEIS page 19, 70, & 237).

Cumulative Effects
I also considered measures being implemented on the Bailey Restoration Project and Crawfish Restoration Project which are partially within the BART project area and will provide additional short-term forage and a reduction in sedimentation of streams through projects that have been proposed; some to be completed as funding becomes available. Some of these projects include:

- Over 5,000 acres of commercial and non-commercial vegetation management, including over 400 acres of aspen treatments and meadow restoration;
- Over 39 stream crossing improvements in Aeneas and Chewiliken Creeks or their tributaries (FEIS 76); and
- Over 18 miles of road decommissioning, as funding becomes available (FEIS 75 & 76).

OTHER ALTERNATIVES CONSDIERED

In addition to the selected alternative, I considered two other alternatives in detail. The alternatives are briefly discussed below. A detailed comparison of the alternatives can be found in the FEIS in Chapters 2 and 3.

Alternative 1 – No Action
For this project, the No Action Alternative is interpreted to be no grazing. All term grazing permits would be cancelled upon implementation of the decision and resolution of the appeal process. Permittees would be given two years written advance notice of cancellation of their permits as provided for under 36 CFR 222.4(a)(1). Upon cancellation of the existing permits, there would be no livestock grazing.

I did not choose Alternative 1 because it would not respond to the purpose and need of meeting Congressional and Okanogan National Forest Plan intent to allow grazing on suitable lands without impairment of the productivity and surface resources of the land. The goal is to provide a sustained production of palatable forage for grazing by livestock and dependent wildlife species while meeting the needs of other resources and uses at a level which is responsive to site-specific objectives as well as to contribute to the social and economic health of communities which are significantly affected by National Forest management. This alternative would have an impact on the economic viability of the permittees. No Action was the environmentally preferred alternative.

Alternative 3
Alternative 3 is very similar to the Selected Alternative, however Alternative 3 was developed to provide cattle grazing while accelerating riparian resource improvement to streams functioning at risk, including reduced stream embeddedness and stabilizing stream banks that are not meeting Forest Plan Standards and Guidelines, and PACFISH/INFISH Riparian Management Objectives (RMOs). The difference between the Selected Alternative is that Alternative 3 would construct the fences and start rest of the pastures within the first four years. Both alternatives have the same endpoint; just Alternative 3 would move towards recovery over a shorter period of time. Both alternatives are designed to try and continue livestock grazing at near current levels (see Table R-1, page R-2) using a combination of existing and new range improvements for each allotment and adaptive management strategies.

This alternative is anticipated to be implemented within a four year time frame that includes the installation of water developments and fences in the first year (Stage 1, year 1), the construction of a fence in the North Tunk pasture in the second year (Stage 2, fence 2), and the remainder of the proposed fences (Stages 3 & 4, fences 3 and 4) would be installed in the 3rd and 4th years. The 4 new pastures (A, B, C, & D, shown in figure R-2, page R-28) would be rested until the Indicators of Desired Recovery for Re-grazing is met. The intent is for long-term rest of these pastures, likely greater than 10 years.

The same monitoring plan used for the Selected Alternative would be used to assess whether or not the desired results are being achieved. Monitoring results would be used to determine the length of time each non-rested pasture is grazed, as well as progress in achievement of desired conditions in rested pastures.

I did not choose Alternative 3 because it did not provide flexibility to the permittees to have a role in the decision to implement administrative and adaptive management measures to achieve desired resource results. This alternative could not be implemented without significantly impacting the permittees and Forest Range Betterment funds.

Alternatives Considered but Eliminated From Detailed Study

The following alternatives or components of alternatives were considered, but eliminated from detailed consideration for reasons summarized below.

Scheduling Rest on all Stream Reaches that are Functioning at Risk
This alternative considered construction of temporary exclosure fencing along stream segments that are "functioning at risk" including Jungle, Patterson, Peony, Upper and Lower Aeneas, Lost, and Barnell

Creeks on both sides of the streams to exclude livestock from the riparian areas. This alternative was not fully developed because analysis indicated that other fencing options would do more to address the purpose and need and the amount of fencing, estimated at 40 miles, would be prohibitive and create poor management feasibility for the allotments.

Reduction of Permitted Grazing Numbers
An alternative was considered that would have decreased the annual permitted livestock numbers and Head Months. A capability, suitability, and forage production analysis was completed that showed forage availability is not a limiting factor in the allotments; generally about 80% of available forage for grazing is being utilized. Reducing numbers as a stand-alone strategy fails to fully consider the stressors on the riparian systems that are slowing or preventing their recovery.

Implement Current Grazing with Existing Range Improvements.
Current grazing, utilizing only existing improvements, was eliminated as an alternative studied in detail because there is a need for changes to reduce riparian impacts of stream embeddedness, soil compaction, bank stability, stream shade, and riparian vegetation conditions, on streams that are "functioning at risk"

Continue to Manage the Revis and Bannon Allotments as Separate Allotments.
The Revis allotment, an existing allotment which has not been utilized for a period of about eight years, currently meets all Forest Plan Standards and Guidelines and does not contain any streams. It combines well with the Bannon allotment because they are only separated by a short fence and the Revis allotment has no water developments or source of its own. Based on resource impact analysis of water availability on the Bannon allotment; available forage and forage conditions on the Revis allotment; and lack of hydrologic, aquatic/fisheries, and soils concerns on the Revis allotment, no reason has been identified for not managing the two separate allotments together, particularly because a decreased level of available forage for grazing would be utilized in the Bannon Allotment.

Prescribed Burning to Create Forage.
The possibility of prescribed burning to enhance forage was considered. This alternative was not analyzed in detail because burning activities may temporarily increase the availability of forage, but it would not address the cattle distribution problems in sensitive riparian areas. Forage production is currently adequate within the analysis area to sustain permitted AUMs.

Dropping Trees to Inhibit Livestock Grazing and Trailing in Riparian Areas
Dropping trees to inhibit livestock grazing in riparian areas has both a potential positive and negative effect. The trees make it more difficult for livestock to trail up and down the creek since the trees block access to the riparian area. The down side is that the tree fences also effectively fence the livestock into the riparian areas once they get in with poor escape routes for finding ways out and making it difficult for the herder to push them out of the riparian areas once inside.

IDENTIFICATION OF THE ENVIRONMENTALLY PREFERABLE ALTERNATIVE

The Council on Environmental Quality Regulations at 40 CFR 1505.2(b) requires an agency to specify the alternative or alternatives that are considered to be environmentally preferable in the process of reaching its decision. The definition of environmentally preferable is the alternative that causes the least damage to the physical and biological environment, and which best protects, preserves, and enhances historic, cultural, and natural resources. Alternative 1, No Action, best meets this definition. The least amount of impacts would occur under this alternative because all Term Grazing Permits would be cancelled, within 2 years, upon implementation of the decision and resolution of the appeal process.

Permittees would be given two years written advance notice of cancellation of their permits as provided for under 36 CFR 222.4 (a)(1).

Of the action alternatives, Alternative 3 is the environmentally preferable alternative because of the substantially reduced impacts to National Forest System lands and resources. This alternative is anticipated to be implemented within a four year time frame . Alternative 3 was developed to provide cattle grazing and accelerated riparian resource improvement to streams functioning at risk to reduce stream embeddedness and stabilize streambanks. This alternative includes management flexibility to cope with fluctuations in short term environmental changes, such as seasonal weather patterns, while providing the ability to respond to permittee requests for reasonable operational adjustments.

PUBLIC INVOLVEMENT AND CONSULTATION

Public comments were originally requested in May 2012. Scoping letters were sent to more than 170 entities. The BART Grazing Analysis transitioned from an Environmental Assessment (EA) to an Environmental Impact Statement (EIS) because public comments and internal discussion determined that the proposal may have adverse impacts on stream sediment rates**.** On November 23, 2012, a "Notice of Intent" was published in the Federal Register to change the analysis from an Environmental Assessment to an Environmental Impact Statement. On November 26 and 27, 2012 scoping letters were sent to approximately 160 entities, including government agencies, groups, individuals, and other parties that had requested information on general forest or specific range projects or had commented during the first comment period.

Government-to-government scoping letters were sent to the Yakama Nation and the Confederated Tribes of the Colville Indian Reservation in May and November, 2012. The Draft EIS was sent in April 2014. No comments have been received to date. The south boundaries of the Tunk and Aeneas Allotments border the Colville Indian Reservation.

The Draft Environmental Impact Statement (DEIS) was released for public comment the first part of April 2014 with a "Notice of Availability" published in the Federal Register on April 11, 2014 and a "Notice of Opportunity to Comment" in the Wenatchee World on April 16, 2014. Copies of the document or notices of availability were mailed, emailed, or hand delivered to 49 individuals, organizations, or agencies. Comments were received from three individuals and one government agency. These comments, with agency responses, are located in project files.

The Final Environmental Impact Statement and Draft Record of Decision were released for "Objection" the first part of August 2014, with a "Notice of Availability" published in the Federal Register and a "Notice of Opportunity to Object" published in The Wenatchee World, the newspaper of record.

Interaction with the BART grazing permittees has been ongoing since 2011 and has included at least one field trip and meeting each year.

This project has been listed on the Okanogan –Wenatchee National Forest Schedule of Proposed Actions since April, May, June 2012.

Since all identified National Register of Historic Places are avoided or will not be affected by the project undertakings, the determination of: "Historic Properties Present but Avoided/No Effect" was found for this project. Pursuant to the 1997 Programmatic Agreement, consultation with the Historic Preservation Office is not required.

Consultation with the U.S. Fish and Wildlife Service occurred through a series of emails between June 4, 2014 and July 3, 2014. On July 3, 2014, Level 1 Informal Consultation occurred between the Forest Service and the U.S. Fish and Wildlife Service (USFWS). On July 15, 2014 the District requested an official concurrence letter from the U.S. Fish and Wildlife Service.

SUMMARY OF EFFECTS IN RELATION TO SIGNIFICANT AND ANALYSIS ISSUES

These significant and analysis issues were utilized to develop alternatives or additional mitigation and monitoring.

Riparian Resources (Aquatics/Fisheries): *Livestock grazing has affected riparian and aquatic ecosystems that resulted in degraded aquatic habitat and fish habitat. Livestock can directly trample streambanks, create trailing in active floodplains, and utilize riparian vegetation in a duration and intensity that de-stabilizes stream channels. The results of these impacts can increase floodplain, surface, and stream channel erosion, increase direct solar input to streams, and thus making aquatic habitat non-functioning in its ability to support fisheries life history traits (i.e. spawning and rearing).*

The Selected Alternative involves an adaptive strategy approach that will vary in effects depending on how successful the early Stages are. The final Stage of this strategy will rest pastures A, B, C, and D (Figure R-2, page R-28) if habitat conditions are proving to not be meeting resource objectives.

The range of improvements in this alternative, potentially inside the exclosure areas, includes the following:

- Small improvements if the early Stages are successful. Continued grazing of sensitive riparian areas and stream reaches will impede recovery. Existing poor conditions will mostly persist for the life of the AMP.
- Continued degrading trend if early Stages are unsuccessful. Duration for early Stages, prior to resting pastures, is at least 12 years.
- If early Stages are unsuccessful, Stage 5b will rest the pastures that are not meeting resource objectives. Recovery of riparian vegetation will occur at a greater rate in these rested pastures.

In rested areas, a measurable increase in streamside vegetation densities is expected that will lead to increased bank stability. Once rested, riparian vegetation will move towards Forest Plan Standards and INFISH RMOs at a more rapid rate.

Riparian areas and stream reaches outside of the exclosures, which are functioning at risk to non-functioning, will improve slowly and improvements will be small, negligible. Continued grazing of sensitive riparian areas and stream reaches will impede recovery. Overall vegetation conditions and channel stability will likely remain at risk for several years until watershed conditions improve. Riparian vegetation, stream embeddedness, and stream channels will move towards Forest Plan Standards and INFISH RMOs, but the rate will be slow and existing conditions will persist, possibly for multiple years.

The Selected Alternative involves an adaptive strategy approach that will vary in effects on streambank erosion rates and sediment levels, depending on how successful the early stages are. The final stage of this strategy will rest pastures A, B, C, and D (Figure R-2, page R-28), if habitat conditions are proving to not meet resource objectives.

Elevated stream sediment levels are primarily due to high riparian road densities and riparian grazing. Moving sediment levels to or close to meeting Forest Plan Standards and INFISH RMOs will require making substantial changes to both of these activities.

The range of improvements in this alternative, potentially inside the exclosure areas, includes the following:

- Small improvement to bank stability and stream sediment levels if the early stages are successful. Continued grazing along sensitive stream reaches will impede recovery. Cattle will continue to cause bank erosion and sediment delivery. Riparian roads will also contribute to excess sediment in streams. Existing poor conditions will mostly persist for multiple years or the life of AMP.
- A continued degrading sedimentation trend if early stages are unsuccessful. Duration for early stages, prior to resting pastures, is at least 12 years.
- If early stages are unsuccessful, Stage 5b will rest the pastures that are not meeting resource objectives. Recovery of streambank stability and a reduction in bank erosion rates will occur at a greater rate in these rested pastures.

In rested areas, a measureable decrease in unstable banks is expected that will lead to less sediment delivery. Fine sediment levels will improve in the rested streams. Improvements to stream sediment levels may be substantial enough to be measurable. Stream sediment levels in these areas will move towards Forest Plan Standards and INFISH RMOs, but the rate will be slow and existing conditions will persist, possibly for multiple years. However, the existing riparian road network will impede full recovery of stream sediment levels.

Unstable stream reaches outside of the exclosures, which are functioning at risk to non-functioning, will improve slowly and improvements to stream sediment levels will be small, negligible. Continued grazing along sensitive stream reaches will impede recovery. Cattle will continue to cause bank erosion and sediment delivery. Riparian roads will also contribute to excess sediment in streams. Overall channel conditions will likely remain at risk to non-functioning for several years until watershed conditions improve. Stream sediment levels in these areas will move towards Forest Plan Standards and INFISH RMOs, but the rate will be slow and existing conditions will persist, possibly for multiple years.

Below is a table that summarizes consistency with Riparian Management Objectives (RMOs).

Table R-3, Consistency with each of the INFISH Riparian Management Objectives (RMOs)

Riparian Management Objective (RMO)	Current Conditions	Selected Alternative
Pool Frequency > 80 pools/mi	Average pools per mile = 13.6	Where livestock is excluded or pastures rested, bank erosion rates will improve substantially. Where grazing is continued, recovery will be slow. Monitoring and move triggers will ensure use standards are maintained. These measures will improve pool frequencies, but it will be slow to improve due to sediment from high road densities. Pool frequencies will move towards meeting RMOs, but at a slow rate.
Water Temperature 60^{o} F. or less	Limited temperature data suggests it is meeting standards.	Existing grazing does not appear to be affecting water temperatures. Existing conditions will be maintained.

Riparian Management Objective (RMO)	Current Conditions	Selected Alternative
Lower Bank Angle > 75% of banks with <90° angle (i.e. Undercut) (non-forested systems)	Bank angle was 79° in 2005 and 70° in 2010. However, field review of portions of Barnell and Lost Creeks, suggest they may not be meeting this standard. Further review is needed.	Under the Selected Alternative, the meadow portions of Lost and Barnell Creek will be rested every other year and only grazed for 2 to 3 (75 or 50 cow/calf pairs) weeks on the grazed year. Conditions will likely improve in the unstable areas slowly. Conditions are expected to move towards meeting RMO standards at a near natural rate.
Width to Depth Ratio < 10 (mean wetted width divided by mean depth)	Range = 4.07-14.9	Reducing grazing pressure along streams or using full rest in large areas will begin to allow stream channels to recover. Wide channels will begin to narrow over time. However, most headwater streams, not included in exclosures, would continue to have grazing and subsequent bank erosion. This coupled with the high density of roads will slow improvement. Width: depth ratios will trend towards meeting RMOs, but will be slow to improve.
Bank Stability (non-forested systems) >80% stable	Bank stability varies on Lost and Barnell Creeks, but most reaches are at 80% or greater.	Bank stability will likely improve in the unstable areas. Conditions are expected to move towards meeting RMO standards at a near natural rate.
Large Woody Debris (LWD) >20 pieces per mile, 12" diameter at the small end and >35' in length	Most streams have sufficient LWD levels. Areas with lower levels are partly due to human factors like past timber harvest. RHCAs have been, and will continue to be protected for natural wood recruitment. Conditions will remain unchanged.	Grazing will not affect wood levels in streams. The Selected Alternative will protect instream wood levels. Areas with lower levels are partly due to human factors like past timber harvest. RHCAs have been, and will continue to be protected for natural wood recruitment.

Hydrology: *Livestock grazing has affected riparian and aquatic ecosystems by disturbing streambanks, removing streamside vegetation, and increasing bank erosion, thus adversely affecting hydrologic function, fish habitat, and other aspects of the aquatic ecosystem.*

The Selected Alternative may result in minor improvements to streambank stability, riparian vegetation, and a decrease in fine sediment, but with continued riparian grazing, improvements will be minor and not measurable. If Stage 5b is implemented and large areas are rested, recovery in these areas will occur at a faster rate and bank stability and riparian vegetation conditions will improve. Due to the widespread instability, poor channel conditions of the allotment streams, and the extensive road network, improvements to erosion rates and stream sediment levels may not measurably improve under 5b.

In riparian areas that are rested, a measureable increase in bank stability and possibly a measurable decrease in fine sediment levels are expected.

Outside of rested areas, conditions may improve or may not. Some areas will receive more grazing pressure with fewer streams accessible, leading to greater impacts. On the other hand, improved grazing management may reduce use across the allotment, leading to improved conditions. Areas with poor channel and riparian vegetation conditions along streams and wetlands may improve slightly, but it's expected to be minor and not measurable because continuing to graze vulnerable areas will hinder recovery. Degraded vegetation conditions will either remain or have a very slow improvement trend. Physical stream features like fine sediment levels, width/depth ratios, and pool frequencies are unlikely to achieve Desired Future Condition (DFC) until a significant reduction in riparian roads occurs and years pass by for conifers to reach maturity. Fine sediment levels and riparian vegetation conditions may continue to deteriorate without rest.

Hydrology (Water Quality): *Grazing has the potential to indirectly affect beneficial uses and 303(d) listed waterbodies for the pollutants of nutrients, bacteria, and temperature.*

Range practices may directly increase fecal coliform levels in surface water. However, water monitoring of selected areas of grazing have not shown a significant problem (Bennett, 1982). Past water monitoring projects suggest fecal coliform levels increase to levels near the Washington State standards but quickly fall to background levels within one to two miles below the stock concentration. Other harmful organisms may or may not survive farther downstream. Where riparian shade is not provided, warmer water temperatures may persist in the heat of summer and may support coliform communities.

Baseline stream temperatures are considered properly functioning. Mature and late seral conifers provide a majority of the shade levels for most streams, which are unaffected by livestock.

Water developments have the potential to affect stream temperature by bringing groundwater to the surface and exposing it to solar warming and decreasing the volume of water in streams. This proportionally small volume effect to the overall hydrologic budget will not result in sufficient reductions to the drainages to effect measurable changes in water temperature (FEIS pages 62, 63, & 166).

Economic Impacts to Permittee and Community, and Efficiency of Management*: Communities in Okanogan County have historical ties to agriculture. For many residents, ranching is more than just a form of employment; it is a way of life and supports long-standing family traditions. Livestock grazing has economic and social importance to these communities. These allotments support agricultural jobs and income as well as the ranching way of life for many families. A reduction of AUMs will cause a negative economic impact to the economy of Okanogan County.*

Smaller pastures will require the movement of cattle by the permittee more often at times of the year when cattle are difficult to find and move.

A reduction of AUMs will cause a negative economic impact to the economy of Okanogan County. The Selected Alternative will retain an estimated 16 full and part time employments; retained labor income of approximately $251,392 if rest of the 5 pastures (A, B. C, D, and Peony Creek) is not required under Stage 5b (FEIS pages 63, 251 & 252).

Total range improvement costs will be as little as $74,465 (Stage 1) or as high as $206,083 if all stages implemented (FEIS pages 63 & 260).

Loss of acres available for grazing will be an estimated 594 acres in Stage 1. If Stage 5b was fully implemented (rest) total acres rested will be about 8,000 acres or 22% of the allotments (FEIS pages 63 & 260). The length of rest will be determined by monitoring.

Estimated payments of grazing fees off NFS land received by the Treasury and by the 25% Fund will be $4,580 (25% of fees collected) on the BART allotments. This could be reduced in Stage 5b if rest of the 5 pastures (A, B, C, D, and Peony Creek) is required due to the lower potential permitted numbers of livestock with pastures not being available for grazing or reduced seasons of use (FEIS pages 64 & 258).

There will be up 13 separate pastures, FEIS pages 65. The Peony pasture will be rested under Stage 1. Under Stage 5b, depending on monitoring outcomes, up to 5 pastures could be rested (Peony and Areas A, B, C, and/or D, Figure R-2, page R-28) until triggers are met to return grazing. In addition, the Barnell/Lost pasture will only be grazed for a reduced period of time, until triggers are reached to return full grazing to this pasture.

Wildlife: *Additional fencing can create significant barriers or impediments to normal movement and increase energy demands for wildlife*

Approximately 1.1 miles of fence will be removed between the Revis and Bannon pastures. About 0.6 miles of fence will be removed from the Barnell Meadows area (FEIS pages 27, 29, & 65).

The Selected Alternative will reduce the stressors from cows. Stressors such as shrub hedging hardwood browsing, and riparian vegetation trampling can be reduced if domestic cattle are managed with added range improvements. These improvements will help the permittees control grazing pastures and lead to more resiliency throughout all habitats for native species in all the allotments. The added, up to 13.6 miles of new fencing, or moved fencing, will have a slight negative impact on wildlife and their movement because of the added entanglement possibilities but with proper maintenance these chances decrease dramatically (FEIS pages 65, 218, 220 & 221).

Wildlife: *Grazing effects the habitat of threatened, endangered, and sensitive (TES) wildlife species, migratory birds (MB), and Management Indicator Species (MIS).*

Livestock grazing effects on habitat could affect some wildlife species or habitats primarily through disturbance and displacement of wildlife species and by altering vegetation and habitat conditions. Suitable habitat for several TES, MB, and MIS species exists throughout the allotments (FEIS pages 66, 217, 218, 220, 221, 223 – 230 & 233).

Soil Productivity: *Livestock grazing may affect long term soil productivity by reducing effective ground cover and increasing surface erosion.*

Maintenance of current stocking levels and the season of use will result in little, to no improvement to soil resources. The overall condition of the soil resource is expected to either be maintained or further degraded depending on location within the allotments. Upland soils will likely continue to see very little grazing pressure and will maintain themselves in stable condition. Streambank soils will likely continue to see heavy grazing pressure and may continue to decline in condition as constant trampling in these areas inhibits potential recovery.

Improvements will occur in localized areas where livestock are excluded or their use is substantially reduced. A measureable increase in bank stability and possibly a measurable decrease in fine sediment levels are expected in the areas rested. Outside of rested areas, conditions may improve, but not

substantially. Overall, the project will move the analysis area in an improved trajectory, but only slightly when considering areas rested and areas with continued grazing.

Range Resources: *Livestock grazing may affect rangeland and riparian vegetation health by altering plant community composition and structure.*

The Selected Alternative is expected to provide some improvement to riparian areas. Upland rangeland areas are mostly properly functioning.

FINDINGS REQUIRED BY OTHER LAWS

The **National Forest Management Act (NFMA)** reorganized, expanded, and otherwise amended the Forest and Rangeland Renewable Resource Planning Act of 1974, which called for the management of renewable resources on National Forest lands. The **National Forest Management Act** requires the Secretary of Agriculture to assess forest lands, develop a management program based on multiple-uses, sustained-yield principles, and implement a resource management plan for each unit on the National Forest System. It is the primary statute governing administration of National Forests.

There are several important sections within the act, including Section 1 (purpose and principles), Section 19 (fish and wildlife resources), Section 23 (water and soil resources), and Section 27 (management requirements that relate to perspective project planning).

The selected alternative was developed in compliance with the Okanogan National Forest Land and Resource Management Plan, 1989 (Forest Plan), as amended. Throughout the environmental analysis and various specialist reports in the project record, there are references to Forest Plan standards and guidelines and how those standards and guidelines were met in the various aspects of the alternative design.

This project was prepared under and complies with the regulations for the **National Environmental Policy Act**. Standards and guidelines established in the amended Okanogan National Forest Land and Resource Management Plan, as applicable, have been met.

The Forest Plan, as amended, combines the forest-level strategy for managing land and resources on the forest. The plan provides resource management direction, defines various management areas, and outlines standards and guidelines under which lands and resource areas are administered under the Okanogan National Forest, Forest Plan.

To avoid duplication of analysis that has already been completed, this document is tiered to and relies upon the analysis in the 1989 Final Environmental Impact Statement (FEIS) and Record of Decision (ROD) for the Okanogan National Forest, as amended (referred to in this Record of Decision as the Forest Plan); the Pacific Northwest Invasive Plant Program Final Environmental Impact Statement, Record of Decision; and the Decision Notices for PACFISH and INFISH.

The selected alternative meets the intent of the **Multiple-Use Sustained Yield Act** of 1960. The selected alternative ensures that recreation, fish and wildlife, water, timber resources are available for current and future generations.

The **Clean Air Act** (CAA) Amendments of 1977 gives federal land managers an affirmative responsibility to protect the air quality related values (including visibility) within Class 1 areas. The project will meet air quality standards set by the **Clean Air Act** since grazing has minimal effect on air quality in an open range setting and will have no effect within Class 1 areas.

Magnuson – Stevens Fishery Conservation and Management Act: It is the primary law governing marine fisheries management in the United States. The law was originally enacted as the **Fishery Conservation and Management Act of 1976** and has been amended many times over the years. Two major recent sets of amendments to the law were the **Sustainable Fisheries Act of 1996** and then 10 years later the **Magnuson-Stevens Fishery Conservation Reauthorization Act of 2006.** The goal of the act was to end overfishing. The most recent version, authorized in 2007, includes seven purposes: 1. Acting to conserve fishery resources; 2. Supporting enforcement of international fishing agreements; 3. Promoting fishing in line with conservation principles; 4. Providing for the implementation of fishery management plans which achieve optimal yield; 5. Establishing Regional Fishery Management Councils to steward fishery resources; 6. Developing underutilized fisheries; and 7. Protecting essential fish habitats.

The **Magnuson-Stevens Act** (Essential Fish Habitat) does not apply since there are no streams within the project area that contain fish listed under the Endangered Species Act (ESA). The closest point where ESA listed fish occur is over 9 miles below the project area and effects will not travel that distance (FEIS pages 13 & 161). The combination of the great distance between ESA fish occupied habitat and the project area and the implementation of the proposed design criteria for the project, results in no effect to listed fish. Therefore, this project has no effect to ESA listed fish, their critical habitat, or to any Essential Fish Habitat therefore, there is no requirement to consult with the U.S. Fish and Wildlife Service or National Marine Fisheries Service related to fish impacts (FEIS pages 13, 153 & 154).

A summary of INFISH Resource Management Objective findings can be found in Table R–3, page R-16, earlier in this document.

Section 106 of the **National Historic Preservation Act** of 1966 (amended in 1976, 1980, and 1992) is the foremost legislation that governs treatment of cultural resources for this project. Implementing regulations that clarify and expand upon the **National Historic Preservation Act** include **36 CFR 800 (Protection of Historic Properties), 36 CFR 63 (Determination of Eligibility to the National Register of Historic Places) and 36 CFR 296 (Protection of Archaeological Resources**). This project complies with the **National Historic Preservation Act** (NHPA), as amended, and will not adversely affect heritage resources. Since all identified National Register of Historic Places are avoided or will not be effected by the project undertakings, the determination of: "Historic Properties Present but Avoided/No Effect" was found for this project. Pursuant to the 1997 Programmatic Agreement, consultation with the State Historic Preservation Office is not required (FEIS pages 15 & 70). Consultation with affected Indian Tribes has been completed in compliance with Section 106 of the NHPA (FEIS pages 15, 233, 235 & 237).

Executive Order 12898, Consumers, Civil Rights, Minority Groups, Low Income Populations, and Women, directs Federal Agencies to identify and address, as appropriate, any disproportionate adverse affect to minority or low-income populations. None of the activities proposed will have disproportionate effects on low income or minority populations. The Selected Alternative will not negatively affect women, American Indians, other minorities, or consumer groups. Civil Rights will not be adversely affected by the Selected Alternative (FEIS pages 252 – 254, 256, 257 & 261 - 263).

Consumers, the civil rights of individuals, and groups, including minorities and women, and the rights of American Indians identified by the **American Indian Religious Freedom Act** of 1978 will not be adversely affected by implementation of the Selected Alternative. Indirect effects on these groups may result from job opportunities created or maintained by authorizing grazing on allotments and pastures in the project area.

The 1918 **Migratory Bird Treaty Act** established an international framework for the protection and conservation of migratory birds. This Act makes it illegal, unless permitted by regulations to "pursue, hunt, take, capture, purchase, deliver for shipment, ship, cause to be carried by an means whatever, receive for shipment, transportation or carriage, or export, at any time, or in any manner, any migratory bird. . .".

The Selected Alternative is consistent with the **Migratory Bird Treaty Act** (MBTA) and **Migratory Bird Executive Order 13186**. The Selected Alternative was designed under current Forest Service policy for landbirds. The Selected Alternative was designed to protect or enhance habitats for landbird species, including Neotropical migratory species (FEIS pages 66 & 229).

The **Clean Water Act** requires the Forest Service to manage for the attainment of water quality criteria that provides for the most restrictive beneficial use present on a reach of stream.

State antidegradation rules require that water quality not be lowered to any measurable extent (e.g., 5 NTU for turbidity) where feasible methods exist to prevent or significantly reduce that effect. Even where measurable lowering of water quality is being prevented, antidegradation rules require that no activity cause or contribute to a violation of the numeric turbidity criteria or harm the existing or designated uses established in the state standards for the specific water bodies.

Water quality was identified as a limiting beneficial use on lower Bonaparte Creek downstream of the analysis area. There is no hydrologic connection between the drainages from the project area to lower Bonaparte Creek because Upper Bonaparte and Patterson Creeks flow underground with intermittent surface flow (USDA Forest Service 1998a and 1998b) [FEIS pages 204 & 214]. The actions proposed in the Selected Alternative will improve water quality conditions within the allotment area, over time, when bare banks become re-established with groundcover and unstable streambanks heal from hoof disturbance.

Water quality is not a limiting beneficial use on the West Fork of the Sanpoil River. There is no Washington State Department of Ecology (DOE) listed 303(d) or 305(b) waters of concern within the analysis area, nor within the West Fork Sanpoil Watershed (DOE 2008, 2012b). The main stem of the Sanpoil River has two 303(d) listings (for fecal coliform and temperature), approximately 30 miles, downstream of the analysis area (FEIS pages 62, 198, 199, 203, 204, 214 & 266). This project will have no measureable effect on the stream temperatures within the planning area or the downstream segments of the Sanpoil River. With project activities, required mitigation, and monitoring preventing increased cattle use of the riparian zones, none of the treatments will remove streamside shading, and therefore treatments will not affect these parameters or exacerbate the 303(d) fecal coliform listings downstream (FEIS pages 60, 61, 196, 197, 201, 202 & 212).

Because Best Management Practices (BMP's) will be fully implemented, water quality standards and the anti-degradation policy (Chapter 173-201A WAC) are expected to be met. Full implementation of BMPs has been shown to be an effective method in preventing and controlling nonpoint source water pollution. Implementation and effectiveness monitoring from past projects has shown that the proposed design standards are successful in meeting Forest Plan requirements. Monitoring will be conducted during the project in order to validate implementation and effectiveness of BMPs and assure compliance with the Clean Water Act and State water quality regulations.

Executive Order 11990, Protection of Wetlands, requires agencies to take actions to minimize destruction, loss, or degradation of wetlands and to preserve and enhance the natural and beneficial values

of wetlands. Wetlands that occur in the project area will be maintained or expanded in spatial extent with improved functionality. Focusing on improved riparian vegetation and improved channel condition, it will allow increased water storage in the floodplain and is consistent with the Executive Order (FEIS pages 27 – 29, 42, 50, 61, 120, 148, 197, 206, 207, 215 & 263).

The Selected Alternative will improve livestock distribution and use, which in turn will allow for some recovery and reduced utilization of currently high use wetland areas. No new construction is proposed to be located in wetlands except fencing of water sources for water developments which will be beneficial since vegetation will be available to grow without impacts from grazing. The BART AMP meets the intent and is in compliance with this Executive Order.

Executive Order 11988, Floodplain Management, requires that Federal agencies provide leadership and take action to minimize adverse impacts associated with the occupancy and modification of floodplains and reduce risks of flood loss. The floodplains are primarily contained within Riparian Habitat Conservation Areas (RHCAs). Management action will be authorized that manage the amount of streambank alteration and defers and/or rests livestock use which will minimize or avoid adverse effects to the floodplains, and thus be consistent with Executive Order 11988.

The Selected Alternative will not result in an action resulting in an adverse impact from any occupancy or modification of floodplains. No occupancy is proposed, and any change in use within floodplains will improve over the existing condition. The FEIS meets the intent and is in compliance with this Executive Order (FEIS page 263).

The **Endangered Species Act** provides protection for species of fish, wildlife, and plants that are listed as threatened or endangered in the U.S. or elsewhere. Provisions are made for listing species, as well as for recovery plans and the designation of critical habitat for listed species. The Act outlines procedures for federal agencies to follow when taking actions that may jeopardize listed species, and contains exceptions and exemptions. Field surveys and biological evaluations for all listed endangered, threatened, or sensitive species have been prepared to determine possible effects of any activities that authorize grazing.

Forests are required to consult with the U.S. Fish and Wildlife Service if an activity may affect the population or habitat of a listed species. Completed biological assessments and consultations can be found in the project file. The project may affect, but is not likely to adversely affect threatened, endangered or proposed listed species under the **Endangered Species Act**.

Consultation with the U.S. Fish and Wildlife Service occurred through a series of emails between June 4, 2014 and July 3, 2014. On July 3, 2014, Level 1 Informal Consultation occurred between the Forest Service and the U.S. Fish and Wildlife Service (USFWS). On July 15, 2014 the District requested an official concurrence letter from the U.S. Fish and Wildlife Service.

Executive Order 13112 (1999), Invasive Species, requires Federal agencies whose actions may affect the status of invasive species to identify those actions and within budgetary limits, "(i) prevent the introduction of invasive species; (ii) detect and respond rapidly to and control populations of such species . . .(iii) monitor invasive species populations . . . (iv) provide for restoration of native species and habitat conditions in ecosystems that have been invaded . . .(vi) promote public education on invasive species . . . and (3) not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species . . . unless, pursuant to guidelines that it has prescribed, the agency had determined and made public . . . that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk of harm will be taken in conjunction with the actions."

This analysis conforms to the requirements of the **Pacific Northwest Invasive Plant Program Final Environmental Impact Statement, Record of Decision** (Forest Service 2005b). This project is intended to comply with the **Guide to Noxious Weed Prevention Practices** (USDA Forest Service 2001) supporting the February 3, 1999 Executive Order on Invasive Species, and the **National Strategy and Implementation Plan for Invasive Species Management** (USDA Forest Service 2004) [FEIS page 130].

Most of the known noxious weed sites within the BART Grazing Analysis assessment area have been treated with a residual herbicide (picloram) or glyphosate since 1998 and/or hand pulled under the Okanogan National Forest Integrated Weed Management Environmental Assessments (Forest Noxious Weed EAs 1997b & 2000a).

The selected alternative implements the direction from the Okanogan Integrated Weed Environmental Assessments. The selected alternative includes design criteria which will limit the spread of invasive weeds. These include the cleaning of off-road equipment between infested work sites, re-vegetating disturbed areas with native seed, and monitoring weed infestations (FEIS pages 38 & 39).

The Selected Alternative complies with the Federal Regulations for **prime land**. No 'prime' forestland will be affected. The analysis area does not contain any prime rangeland or farmland (FEIS page 265).

There are no designated **municipal watersheds** in the BART Project Area (FEIS page 189).

This project is consistent with the Roadless Area Conservation Area rule and Forest Service Interim Directive 1920-2006-1 because no timber harvest or road construction is proposed and there are no Inventoried Roadless Areas or Potential Wilderness Areas in the project area (FEIS page 266).

The Forest Service **Strategies Framework for Responding to Climate Change**, states, "[t]he Forest Service will need to build consideration of climate change into virtually all aspects of agency operations including consideration of life cycle analysis of activities.

How management may influence climate change: The proposed livestock grazing would have a neutral outcome on the resiliency of the analysis area related to climate change. The effects of proposed livestock grazing in the BART allotments on climate change and carbon cycling, aren't measurable and are likely insignificant at the national or global scales. A project of this magnitude will have such minimal effects to greenhouse gasses that its impacts on global climate change will be infinitesimal. Therefore, at the global scale, the selected action's direct and indirect contribution to greenhouse gasses and climate change will be negligible. In addition, because the direct and indirect effects will be negligible, the selected action's contribution to cumulative effects on greenhouse gasses and climate change will also be negligible (FEIS pages 70, 94, 95, 109, 117, 132, 158, 182, 216, 219, 264 & 265).

The Intergovernmental Panel on Climate change (IPCC) has summarized the contributions to climate change of global human activity sectors in its Fourth Assessment Report (IPCC 2007). The top three anthropogenic (human-caused) contributors to greenhouse gas emissions (from 1970 – 2004) are: 1). Fossil fuel combustion (56.6% global total); 2). Deforestation (17.3%); and 3). Agricultural waste/energy (14.3%). IPCC subdivides the deforestation category into land use conversion and large scale deforestation. The BART project does not fall within any of these main contributors of greenhouse gas emissions. Forest land would not be converted into a developed or agricultural condition.

OPPORTUNITY TO OBJECT

This decision is subject to the pre-decisional review process pursuant to 36 CFR 218 Subparts A and B. During the objection period, only those individuals or organizations that submitted specific written comments during the designated opportunities for public participation may object (36 CFR 218.5). Objections must meet the requirements of 36 CFR 218.8(d); incorporation of documents by reference is permitted only as provided for at 36 CFR 218.8(b).

An objection must include a description of those aspects of the proposed project addressed by the objection, including specific issues related to the proposed project; if applicable, how the objector believes the environmental analysis or draft decision specifically violates law, regulation or policy; suggested remedies that will resolve the objection; supporting reasons for the reviewing office to consider; and a statement that demonstrates the connection between prior written comments on the particular proposed project or activity and the content of the objection, unless the objection concerns an issue that arose after the designated opportunities for comment. Issues raised in objections must be based on previously submitted specific comments to the proposed project or activity. Comments received during this review process will be considered, and a revised (if necessary) EIS and Record of Decision prepared.

How to File an Objection

The publication date of the legal notice in the Federal Register is the exclusive means for calculating the time to file an objection and those wishing to object should not rely upon dates or timeframe information provided by any other source. The objection, including attachments, must be filed (regular mail, fax, email, hand-delivery, express delivery, or messenger service) with the reviewing officer within 45 days of this legal notice at: Regional Forester, Attention: 1570 OBJECTIONS, Pacific Northwest Region, P. O. Box 3623, Portland, OR 97208 (US Mail) [or for physical delivery: 1220 SW 3rd Avenue, Portland, OR 97204] , FAX #503-808-2339, or sent electronically to objections-pnw-regional-office@fs.fed.us. Hand deliveries must be made between 8:00AM and 4:30 PM Monday through Friday, except legal holidays.

Electronic objections must be submitted only to the e-mail address shown above as part of the actual e-mail message, or as an attachment in Microsoft Word (.doc or .docx), rich text format (.rtf) or Adobe portable document format (.pdf) only. E-mails in other formats or containing viruses will be rejected. Note in the subject line the name of the project and that it is an objection

It is the responsibility of all individuals and organizations to ensure their objections are received in a timely manner as described in 36 CFR 218.9. For electronically mailed objections, the sender should normally receive an automated acknowledgement of the receipt of the objection. It is the sender's responsibility to ensure timely receipt by other means.

In cases where no identifiable name is attached to an objection, a verification of identify will be required for objection eligibility. If using an electronic message, a scanned signature is one way to provide verification.

A legal notice announcing the date of publication in the Federal Register will also be published in The Wenatchee World, the newspaper of record for the project. The publication date in the Federal Register is the exclusive means for calculating the objection period for this proposal.

Please be aware that all comments, names, addresses, and phone numbers become part of the project record and are subject to release if a Freedom of Information Act (FOIA) request is received.

Timing of Project Decision and Implementation

The Reviewing Officer shall issue a written response to all Objections within 45 days following the end of this objection-filing period (218.10). When all objections have been responded to in writing, the Responsible Official may make a final decision on the proposed project.

Contact Information

For further information regarding the project, contact Team Leader Phil Christy at 1 West Winesap, Tonasket, WA 98855, phone (509) 486-5137, fax (509) 486-1922.

The FEIS, ROD and supporting documents are available for inspection during regular business hours (Monday through Friday, 8:00 a.m. to 4:30 p.m. at the Tonasket Ranger District (please call ahead to schedule an appointment).

The Final Environmental Impact Statement will also be posted on the Okanogan-Wenatchee National Forest website at:

http://www.fs.fed.us/nepa/nepa_project_exp.php?project=38873

_____ _____

MICHAEL BALBONI Date
Okanogan - Wenatchee National Forest
Forest Supervisor

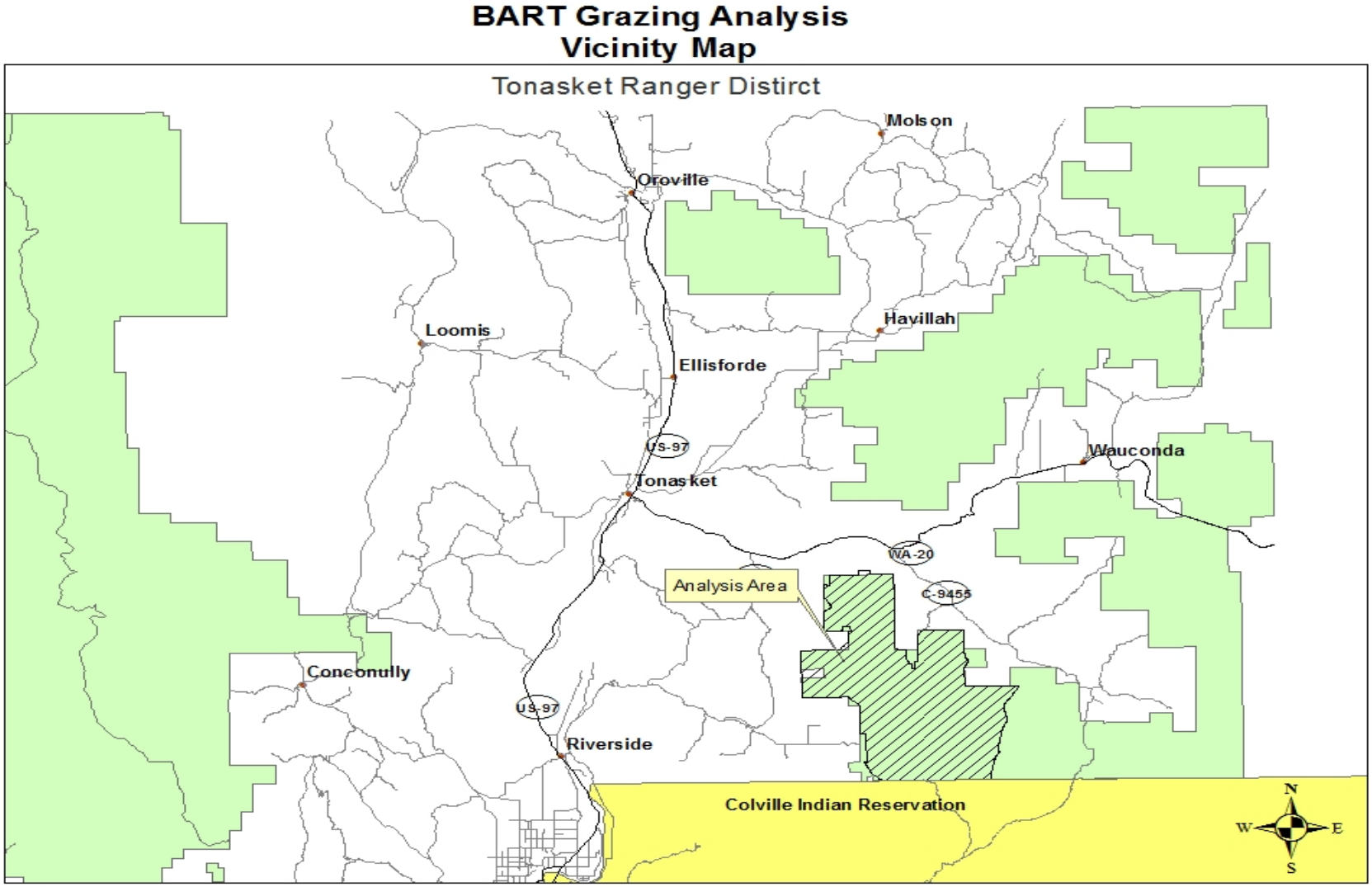

Figure R-1, Project Vicinity Map

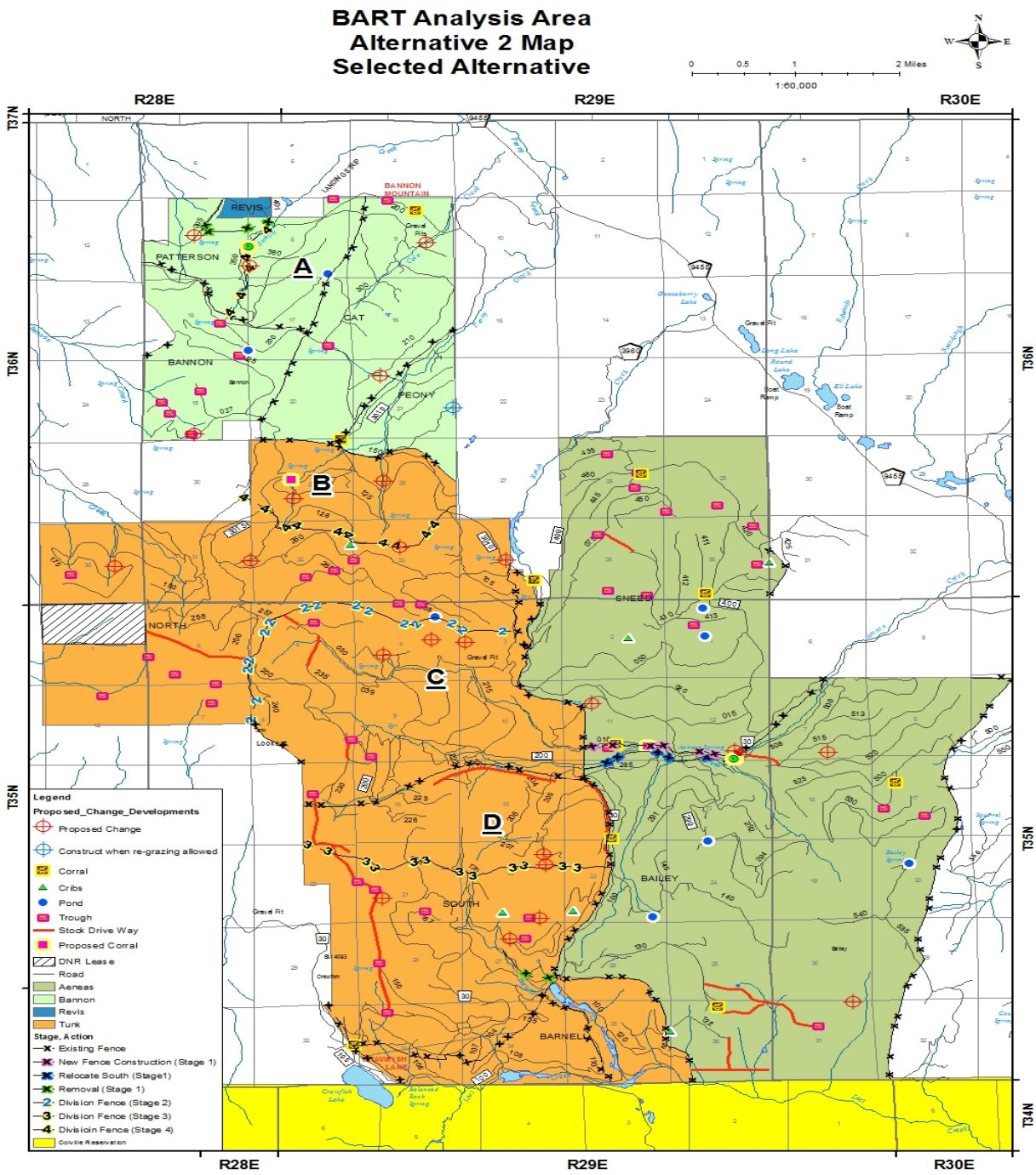

Figure R-2, Selected Alternative Map

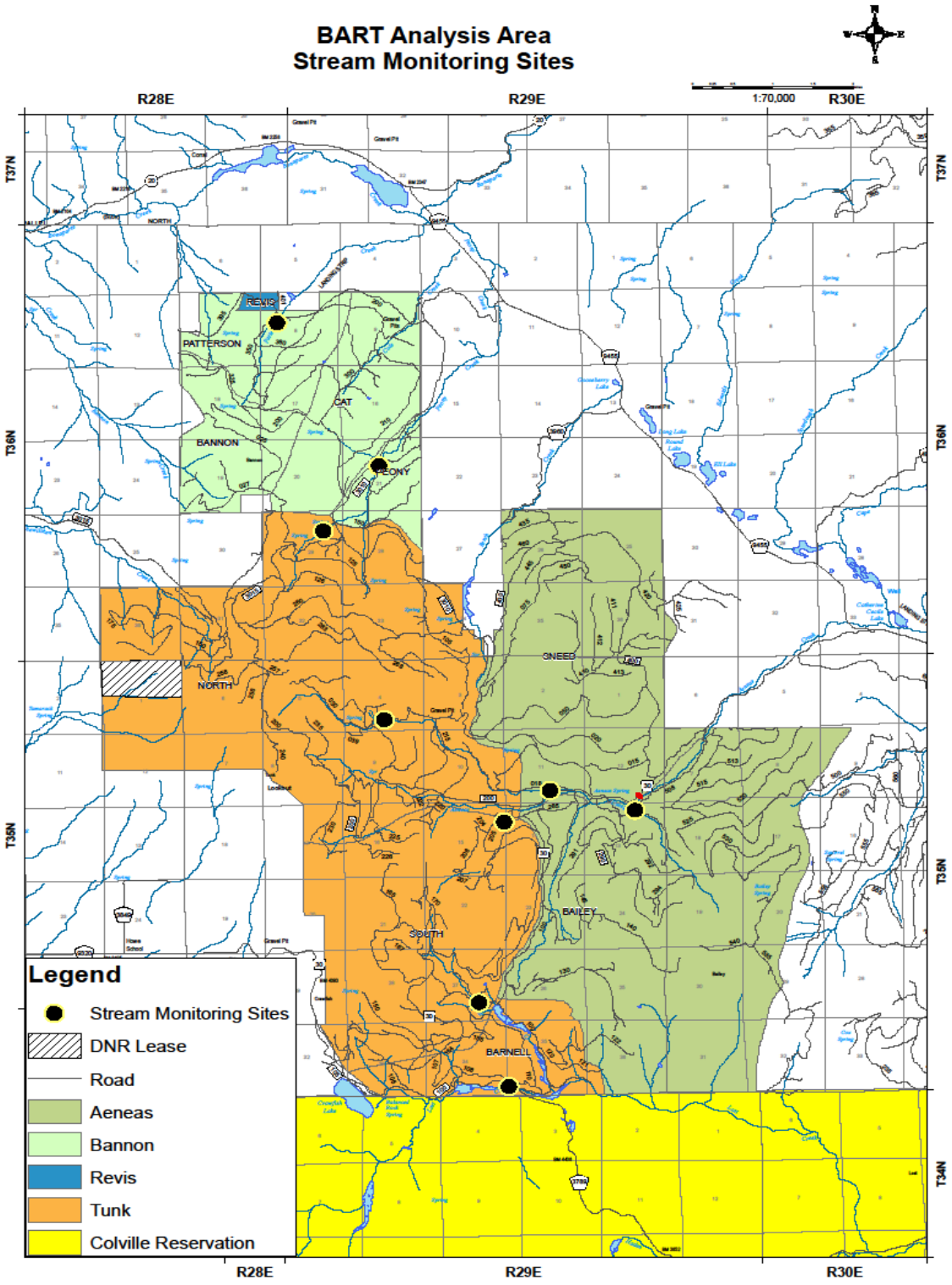

Figure R-3, Stream Monitoring Sites